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LISTS OF SPECIES

Mayflies (Insecta: Ephemeroptera) of Nevada, United States of America

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Introduction

This report provides the first comprehensive list of the species of mayflies that have been taken in the western U.S.A. state of Nevada. Of the western states, Nevada has had the poorest documentation in terms of Ephemeroptera fauna, with only one or very few locales having been recorded for only 38 species. One obvious reason for this historical neglect is that although the state is relatively large at 286,297 square kilometers, it is the driest of all U.S.A. states, resulting in relatively few permanent streams and severely limiting the number of habitats available for mayflies within its deserts. The Great Basin extends into part of the state mainly from Utah; much of western Nevada is in the rain shadow of the Sierra Nevada Mountain Chain; mountains within Nevada tend to be highly isolated and alkaline flats are common. A preliminary survey of the mayflies from the Humboldt River (Fig. 1), which runs east to west in the high desert of the northern part of the state, represents the only previous faunistic study centered over part of Nevada (Baumann and Kondratieff 2000). The first mayfly reported from Nevada was the common western species *Siphlonurus occidentalis* (Eaton) (Eaton 1885). Banks (1924) added two species, and Traver (1935) added a fourth. All other species were added since 1958.

Based on the study of very recent samples we have made and on older materials identified from six different collections (see below), we are able to add records for another 30 species, bringing the total known Nevada mayfly fauna to 68 species. More important, we are also able to provide 115 new county records for 52 of the species, with only Esmeralda County of the 17 Nevada counties (Fig. 1) not currently represented with mayfly records. The study adds a geographically significant segment to the recent ongoing inventory and evaluation of the western North American mayfly fauna (e.g., McCafferty et al. 1993, 1997; Lugo-Ortiz and McCafferty 1995a; McCafferty and Randolph 1998; Randolph and McCafferty 2000, 2005; Lester et al. 2002; McCafferty 2007d; Meyer and McCafferty 2007a, 2007b; McCafferty and Meyer 2007; McCafferty and Newell 2007). While species numbers for Nevada are small compared to other western states [for example, Oregon has 148 known species (Meyer and McCafferty 2007b)], there is now a more reasonable knowledge base from this geographic area for assessing the total ranges and biogeography (including vagility over arid regions or the relictual nature) of elements of the western mayfly fauna.

Collections where new records we report below are located (and their acronyms) are as follows: Bureau of Land Management/Utah State University National Aquatic Monitoring Center BugLab, Logan, Utah (BLAB); California Academy of Sciences, San Francisco (CAS); Cornell University Arthropod Collection, Ithaca, New York (CUAC); Purdue Entomological Research Collection, West Lafayette, Indiana (PERC); private collection of RPR (RPR); and Bohart Museum, University of California, Davis (UCD). Species are presented alphabetically by

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family, genus, and species. Those newly reported for the state are double asterisked, and previously known species with additional new locale data are single asterisked.

Figure 1. The state of Nevada with counties and landmarks indicated.

Annotated checklist of species

Ameletidae

***Ameletus bellulus* Zloty. **New data**: larvae, ELKO COUNTY, Lamoille Creek, mouth of canyon, 12-VI-1987, B. Kimmel (PERC).

***Ameletus celer* McDunnough. **New data**: larvae, WHITE PINE COUNTY, Baker Creek, at Baker Creek Trailhead, 2450m, C. Brammer, J. MacDonald (PERC).

***Ameletus doddsianus* Zloty. **New data**: adults, LYON COUNTY, West Fork Walker River, at Wilson Canyon, Highway 208 bridge, 38°48.52' N, 119°13.312' W, 1447m, 23-III-2007, P. Randolph (RPR).

***Ameletus falsus* McDunnough. **New data**: larvae, WHITE PINE COUNTY, Strawberry Creek, no other data, C. Murvosh (PERC).

***Ameletus similior* McDunnough. **New data**: larvae, WHITE PINE COUNTY, Baker Creek, at Baker Creek Campground, 2350m, 4-VII-2001, C. Brammer, J. MacDonald (PERC).

***Ameletus sparsatus* McDunnough. **New data**: adults, WASHOE COUNTY, near Steamboat, swarming over road, 25-V-1969, P. & N. McCafferty (PERC).

***Ameletus velox* Dodds. **New data**: larvae, DOUGLAS COUNTY, East Fork Carson River, upstream of dam near fish hatchery, 38°52.286' N, 119°41.542' W, 1536m, and West Fork Carson River, off Dresslerville Road, east of U.S. Highway 395, 38°52.01' N, 119°45.632' W, 23-III-2007, 1479m, P. Randolph (RPR).

Baetidae

Acentrella insignificans* (McDunnough). **Previous data: Baumann and Kondratieff (2000): Humbolt River (no other data). **New data**: larvae, CLARK COUNTY, Moapa River, VI-1975, J. Priscu (PERC); larvae, ELKO COUNTY, creek above Angel Lake, near Wells, 29-VII-1968, R. Baumann (PERC); larvae, HUMBOLT COUNTY, North Fork Little Humbolt River, 21-VI-2005 (BLAB); larvae, LINCOLN COUNTY, Bull Valley Wash, 22-III-1983, G. Edmunds (PERC), and Meadow Valley Wash, 1-VI-1984, C. Murvosh (PERC); larvae, LYON COUNTY, West Walker River, 14 miles south of Yerington, 22-IX-1957, G. Edmunds, R. Allen (PERC).

***Acentrella turbida* (McDunnough). **New data**: larvae, ELKO COUNTY, Copper Cr, 41.722, -115.519, 19-VI-2004, and Snow Canyon Creek, 41.415, -116.053, 21-VI-2004 (BLAB).

***Baetis bicaudatus* Dodds. **New data**: larvae, CARSON CITY, unnamed stream along Highway 28, 2 miles north of Spooner Lake State Park, 1.5 miles south of Washoe County line, Lake Tahoe Basin, 29°8.401' N, 119°55.455' W, 2153m, 25-III-2007, and waterfall at end of Kings Canyon Road, 6-VI-2007, P. Randolph (RPR); larvae,

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ELKO COUNTY, Lamoille Creek, top of Lamoille Canyon, 19-IX-1957, and Bull Run River, near Deep Creek, 20-IX-1957, G Edmunds, R. Allen (PERC); larvae, WASHOE COUNTY, Incline Creek, 2 miles west of Mount Rose summit, 21-IX-1957, G. Edmunds, R. Allen (PERC); larvae, WHITE PINE COUNTY, Lehman Creek, at Upper Lehman Creek Campground, 2400m, 2-VII-2001, and at Wheeler Peak Campground, 3000m, and at park boundary, 1900m, 3-VII-2001, and Baker Creek, at park boundary, 2130m, and at Baker Creek Trailhead, 2450m, 4-VII-2001, and Baker Creek, at Grey Cliffs Gate, 2160m, 14-VII-2001, and Baker Creek, above cutoff trail, 2800m, and South Baker Creek, below meadow, 2750m, 16-VII-2001, and Lehman Creek, on Wheeler Campground Trail, 2600m, 18-VII-2001, C. Brammer, J. MacDonald (PERC), and Lincoln Creek, 27-VIII-1998, and Pine Creek, 28-VIII-1998, and Snake Creek, 27-VII-2000, and Upper Strawberry Creek, 7-X-1997, and Williams Creek, 27-VIII-1998 (BLAB); adults and larvae, WHITE PINE COUNTY, Baker Creek, at Baker Creek Campground, 2350m, 2-VII-2001, C. Brammer, J. MacDonald (PERC).

***Baetis flavistriga* McDunnough. **New data**: larvae, CLARK COUNTY, Virgin River, near Mesquite, 2-V-1981, P. McCafferty, A. Provonsha, D. Bloodgood (PERC).

***Baetis magnus* McCafferty and Waltz. **New data**: larvae, CHURCHILL COUNTY, Buffalo Creek, off Highway 722, 0.5 miles southeast of Eastgate, 39°18.119' N, 117°52.335' W, 1611m, 24-III-2007, P. Randolph (RPR); larvae, CLARK COUNTY, Cold Creek, at old campground, Spring Mountains, 20-XII-1995, R. Nelson (PERC), and Warm Springs, Moapa Valley, 21-X-1989, G. Edmunds (PERC); larvae, LANDER COUNTY, unnamed stream along Highway 722, west of Carol Station, 39°15.970' N, 117°42.039' W, 2160m, 24-III-2007, P. Randolph (RPR).

Baetis tricaudatus* Dodds. **Previous data: Banks (1924) as *B. parallelus* Banks: WASHOE COUNTY (Reno); Baumann and Kondratieff (2000): Humbolt River (no other data). **New data**: larvae, CARSON CITY, Carson River, at Riverview Park, east end of 5th Street, and Clear Creek, on Old Clear Creek Road, 4 miles east of U.S. Highway 50, 11-IX-2006, and Kings Creek, at Kings Canyon Road, 39°9.436' N, 119°48.229' W, 1554m, and unnamed stream along Highway 28, 2 miles north of Spooner Lake State Park, 1.5 mi south of Washoe County line, Lake Tahoe Basin, 39°8.401' N, 119°55.455' W, 2153m, 25-III-2007, and waterfall at end of Kings Canyon Road, 6-IV-2007, P. Randolph (RPR); larvae, CHURCHILL COUNTY, Buffalo Creek, off Highway 722, 0.5 miles southeast of Eastgate, 39° 18.119' N, 117°52.335' W, 1611m, and Dixie Valley Wash, just west of Shoe Tree, off U.S. Highway 50, 39°17.637'N, 117°59.527'W, 1454m, 24-III-2007, P. Randolph (RPR); larvae, CLARK COUNTY, Carpenter Canyon, Spring Mountains, and Willow Creek, east slope Spring Mountains, 30-V-1984, and Lost Creek, Spring Mountains, and Oak Creek, near Las Vegas, 20-I-1984, C. Murvosh, and Virgin River, near Mesquite, 4-IV-1970, G. Edmunds, and 2-V-1981, P. McCafferty, A. Provonsha, D. Bloodgood (PERC); larvae, DOUGLAS COUNTY, Haines Creek, 3 miles south of Genoa, 21-IX-1957, G. Edmunds, and East Fork Carson River, upstream of dam near fish hatchery, 38°52.286' N, 119° 41.542' W, 1537m, and West Fork Carson River, off Dresslerville Road, east of U. S. Highway 395, 38° 52.01' N, 119°45.632' W, 1479m, and Double Springs, Leviathan Mine Road, Forest Service Road 52, off U. S. Highway 395, 38°47.844' N, 119°39.032' W, 1780m, and Walker River Canal, approximately 0.5 miles east of Topaz Lake, 38° 41.740' N, 119°30.285' W, 1543m, 23-III-2007, P. Randolph (RPR); larvae, ELKO COUNTY, Angel Lake Inlet, 12 miles southwest of Wells, and Starr Creek, 2 miles south of U. S. Highway 40, 23-IX-1957, and Arthur, and Secret Creek, 8 miles northwest of Arthur, and Franklin River, near Highway 11, 19-IX-1957, and Bull Run River, near Deep Creek, and North Fork Humbolt River, and Owyhee River, 3 miles below Wild Horse Dam, and Owyhee River, at Mountain City, and stream near Midas, and Willow Creek, at Willow Creek Reservoir, 20-IX-1957, G. Edmunds, R. Allen, and Beaver Creek, 11 miles south of Mountain City, 3-VIII-1965, S. & J. Jensen, and Owyhee

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River, at Highway 51, 29-VII-1968, R. Baumann, and Goshute Creek, north of Cherry Creek, 6-VI-1985, C. Murvosh (PERC); larvae, EUREKA COUNTY, Fish Creek, south of Eureka, 3-V-1985, C. Murvosh (PERC); larvae, HUMBOLT COUNTY, Donnelly Creek, 15-VIII-2005 (BLAB), and Thomas Canyon Creek, Winnemucca, 2-VI-1986, C. Murvosh (PERC); larvae, LANDER COUNTY, Kingston Forest Canyon, 2.5 miles up Kingston Canyon, Toiyabe Range, and Reese River, near Walker Ranch, and stream, 5 miles up Kingston Canyon, 22-IX-1957, G. Edmunds, R. Allen, and Hill Top Canyon Creek, Battle Mountain, and Little Cottonwood Canyon, south of Battle Mountain off Highway 305, 2-VI-1986, C. Murvosh, and Big Creek, Battle Mountain, 14-VI-1974, B. Stark (PERC), and Campbell Creek, just west of Campbell Creek Ranch, on Highway 722, 39°15.07' N, 117°40.888' W, 2047m, and Reese River, at Road 016 bridge, off Road 1, Reese River Valley, 39°11.960' N, 117°20.702' W, 1894m, and San Juan Creek, off Forest Service Road 06, Reese River Valley, P. Randolph (RPR); larvae, LINCOLN COUNTY, Meadow Valley Wash, and Spring Valley Wash, Ursine, 1-VI-1984, C. Murvosh (PERC); larvae, LYON COUNTY, West Fork Walker River, at Wilson Canyon, Highway 208 bridge, 38°48.52' N, 119°13.312' W, 1447m, P. Randolph (RPR); larvae, MINERAL COUNTY, Walker River, at Rodeo Road, just north of Schurz, off Highway 95, 38°58.184' N, 118°49.312' W, 1281m, P. Randolph (RPR); larvae, NYE COUNTY, Peavine Creek, 10-X-1976, G. Wilde, T. Burke, and Twin River, 12-VII-1977, D. Thomas, and Cherry Creek, Grant Range, 1-V-1985, and Current Creek, Current, 3-VI-1985, and Duckwater Creek, Duckwater, 2-VI-1985, and Pine Creek, Monitor Valley, and South Twin River, 4-VI-1985, C. Murvosh (PERC); larvae and adults, STOREY COUNTY, Truckee River, at Bridge on Tray Power Plant Road, exit 32 off I-80, east of Reno, 39°33.897' N, 119°29.180' W, 1339m, 24-III-2007, P. Randolph (RPR); larvae, WASHOE COUNTY, Galena Creek, on Nevada Highway 27, and Truckee River, at Lawton, 6 miles west of Reno, and Truckee River, at Verdi, 21-IX-1957, G. Edmunds, R. Allen, and Truckee River, Clark, 19-VI-1966, G. Edmunds, and Truckee River, at Oxbow Park, Reno, 28-VII-1999, P. Randolph (PERC); larvae, WHITE PINE COUNTY, Baker Creek, Baker, and Lehman Creek, Baker, and Snake Creek, Snake Range, 2322m, and Strawberry Creek, Great Basin National Park, 5-VI-1985, C. Murvosh, and Lehman Creek, at Upper Lehman Campground, 2400m, 2-VII-2001, and at park boundary, 1900m, 3-VII-2001, and Baker Creek, at park boundary, 2130m, 4-VII-2001, and Baker Creek, at Grey Cliffs Gate, 2160m, 14-VII-2001, and Lehman Creek, at Wheeler Campground Trail, 2600m, 18-VII-2001, C. Brammer, J. MacDonald (PERC), and Snake Creek spring, 26-VII-2000, and South Fork Big Wash, 17-VII-2000 (BLAB); larvae and adults, WHITE PINE COUNTY, Baker Creek, at Baker Creek Campground, 2350m, 2-VII-2001, C. Brammer, J. MacDonald (PERC), and Mill Creek, 6-V-1998, and Pole Canyon Creek, 23-VII-1998, and Ridge Creek, 28-VIII-1998, and Shingle Creek, 26-VIII-1998, and Strawberry Creek, 7-X-1998, and Williams Creek, 27-VIII-1998 (BLAB).

Callibaetis ferrugineus* (Walsh). **Previous data: Frantz and Cordone (1966) as *Callibaetis* sp.: DOUGLAS COUNTY (Lake Tahoe), WASHOE COUNTY (Lake Tahoe). **New data**: larvae, CHURCHILL COUNTY, Dixie Valley Wash, just west of Shoe Tree, off U. S. Highway 50, 39°17.637' N, 117°59.527' W, 1452m, P. Randolph (RPR); larvae, LYON COUNTY, East Fork Walker River, 9 miles south of Yerington, 22-IX-1957, G Edmunds, R. Allen (PERC); larvae, WASHOE COUNTY, pond, 0.25 miles south of Reno, 8-IX-1948, B. Gunderson (PERC).

***Callibaetis fluctuans* (Walsh). **New data**: Adults, CHURCHILL COUNTY, Gravel Pit at U.S. Highway 95, south of Fallon, 25-VIII-1946, LaRivers (PERC); larvae, EUREKA COUNTY, Humbolt River, at Dunphy, 20-VIII-2001, H. Ogden (PERC); larvae, LINCOLN COUNTY, Bull Valley Wash, 22-III-1983, G. Edmunds (PERC); larvae, MINERAL COUNTY, Walker River, at Schurz, 22-IX-1957, G. Edmunds, R. Allen (PERC).

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Camelobaetidius musseri (Traver and Edmunds). **Previous data**: Lugo-Ortiz and McCafferty (1995b): CLARK COUNTY (Warm Springs).

Camelobaetidius warreni* (Traver and Edmunds). **Previous data: Baumann and Kondratieff (2000): Humbolt River (no other data). **New data**: larvae, CLARK COUNTY, Virgin River, near Mesquite, 2-V-1981, P. McCafferty, A. Provonsha, D. Bloodgood (PERC).

Centroptilum bifurcatum* McDunnough. **Previous data: Baumann and Kondratieff (2000): Humbolt River (no other data). **New data**: larvae, CARSON CITY, Carson River, at Riverview Park, east end of 5th Street, 11-IX-2006, P. Randolph (RPR); larvae, ELKO COUNTY, Humbolt River, at Elko, 29-VIII-1965, S. & J. Jensen (PERC).

***Diphetor hageni* (Eaton). **New data**: larvae, CARSON CITY, unnamed stream along Highway 28, 2 miles north of Spooner Lake State Park, 1.5 miles south of Washoe County line, Lake Tahoe Basin, 39°8.401' N, 119°55.455' W, 2153m, P. Randolph (RPR); larvae, ELKO COUNTY, Upper Hans Creek, 41.427, -115.334, 25-VI-2003, and Upper Mary's River, 41.579, -115.378, 24-VI-2003, and Snow Canyon Creek, 41.415, -116.053, 27-VI-2004, and Soldier Creek, 27-VI-2001 (BLAB); larvae, EUREKA COUNTY, North Fork Allison Creek, 4-VII-2002 (BLAB); larvae, HUMBOLT COUNTY, Abel Creek, 22-VI-2001, and Coleman Creek, 41.451, -119.083, 23-VI-2004, and Crowley Creek, 41.82, -118.001, 27-V-2003, and Long Creek, 23-VI-2002, and Mahogany Creek, 21-VI-2001, and Rock Creek, 22-VI-2001, and Sonoma Creek, 40.814, -117.702, 20-V-2004, and Summer Camp Creek, 41.533, -118.991, 14-V-2003, and Washburn Creek, 41,859, -118.059, 27-V-2003, and Water Canyon Creek, 40.919, 117.649, 27-IV-2003 (BLAB); larvae, NYE COUNTY, Copenhagen Creek, 5-VII-2002, and Green Monster Creek, 6-VII-2000, and Illinois Creek, 1-VII-2002, Pine Creek, 22-VI-2002, and Stoneberger Creek, 3-VII-2002, and Washington Creek, 11-VII-2002 (BLAB); larvae, WHITE PINE COUNTY, Basset Creek, 18-VI-2001, and North Fork Cleve Creek, 17-VI-2001, and North Fork Kalamazoo Creek, 6-VII-2002, and Silver Creek, 30-VI-2002, and Snake Creek, 38.922, -114.229, 12-V-2003, and Steptoe Creek, 1-VII-2002, and Strawberry Creek, 11-IX-2000, and White River, 19-VI-2001 (BLAB); larvae, WASHOE COUNTY, Red Mountain Creek, 40.914, -119.437, 23-X-2003 (BLAB).

Fallceon quilleri* (Dodds). **Previous data: Baumann and Kondratieff (2000): Humbolt River (no other data). **New data**: larvae, CARSON CITY, Carson River, at Riverview Park, east end of 5th Street, 11-IX-2006, P. Randolph (RPR); larvae, CLARK COUNTY, Lost Spring, Spring Mountains, 20-I-1984, C. Murvosh (PERC); larvae, DOUGLAS COUNTY, Double Springs, Leviathan Mine Road, Forest Service Road 52, off U. S. Highway 395, 38°47.844' N, 119°39.032' W, 1780m, 23-III-2007, P. Randolph (RPR); larvae, ELKO COUNTY, Lost Meadows Creek, 17-VI-2004, and Willow Creek, 27-IX-2003 (BLAB); larvae, HUMBOLT COUNTY, Alder Creek, 28-V-2004, and Bilk Creek, 14-VI-2003, and South Fork Humbolt River, 18-V-2004 (BLAB), and Martin Creek, at Martin Creek Campground, 7 miles north of Paradise Valley, 30-VII-1968, R. Baumann (PERC); larvae, MINERAL COUNTY, Walker River, at Schurz, 22-IX-1957, G. Edmunds, R. Allen (PERC), and Walker River, at Rodeo Road, just north of Schurz, off Highway 95, 38°58.184' N, 118°49.312' W, 1281m, P. Randolph (RPR).

Procloeon pennulatum (Eaton). **Previous data**: McCafferty et al. (2004): ELKO COUNTY (Humbolt River).

Baetiscidae

Baetisca lacustris McDunnough. **Previous data**: Baumann and Kondratieff (2000): EUREKA COUNTY (Humbolt River).

Caenidae

Caenis latipennis Banks. **Previous data**: Baumann and Kondratieff (2000): EUREKA COUNTY (Humbolt River), LANDER COUNTY (Humbolt River), HUMBOLT COUNTY (Humbolt River).

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Ephemerellidae

***Caudatella heterocaudata* (McDunnough). **New data**: larvae, ELKO COUNTY, Coon Creek, 41.831, -115.568, 18-VI-2004 (BLAB).

Caudatella hystrix* (Traver). **Previous data: Jacobus and McCafferty (2003): WASHOE COUNTY (Incline Creek). **New data**: larvae, CARSON CITY, waterfall, at end of Kings Canyon Road, 6-IV-2007, P. Randolph (RPR).

Drunella coloradensis* (Dodds). **Previous data: Allen and Edmunds (1962): ELKO COUNTY (Angel Lake inlet), WASHOE COUNTY (Galena Creek). **New data**: larvae, ELKO COUNTY, Columbia Creek, 20-VI-2004 (BLAB); larvae, LANDER COUNTY, Big Creek, near Bunker Hill summit, 2-VIII-1968, R. Baumann (PERC); larvae, NYE COUNTY, Clear Creek, 1-VII-2002, and North Fork Ophir Creek, 7-IX-2002, and Stewart Creek, 2-VII-2003, and Summit Creek, 10-VII-2002, and Washington Creek, 11-VII-2002 (BLAB); larvae, WHITE PINE COUNTY, Lehman Creek, at Lehman Creek Campground, 1-VIII-1968, R. Baumann, and 2-VII-2001, C. Brammer, J. MacDonald, and Baker Creek, at Baker Creek Campground, 2350m, 2-VII-2001, and Lehman Creek, at Wheeler Peak Campground, 3000m, and at park boundary, 1900m, 3-VII-2001, and Baker Creek Trailhead, 2450m, 4-VII-2001, and Baker Creek, at Grey Cliffs Gate, 2160m, 14-VII-2001, and Baker Creek, above cutoff trail, 2800m, and South Baker Creek, below meadow, 2750m, 16-VII-2001, and Lehman Creek, on Wheeler Campground Trail, 2600m, 18-VII-2001, C. Brammer, J. MacDonald (PERC), and Mill Creek, 30-VII-1999, and Piermont Creek, 7-VII-2002, and Ridge Creek, 28-VIII-1998, and Shingle Creek, 5-IX-2001, and Snake Creek, 12-V-2003, and Steptoe Creek, 8-VII-2002, and Strawberry Creek, 7-X-1998, and Timber Creek, 21-VI-2002, and Williams Creek, 27-VIII-1998 (BLAB).

Drunella doddsii* (Needham). **Previous data: Allen and Edmunds (1962): ELKO COUNTY (Lamoille Creek), WASHOE COUNTY (Galena Creek). **New data**: larvae, ELKO COUNTY, Cottonwood Creek, 26-VI-2001, and Dorsey Creek, 24-VI-2001, and Soldier Creek, 27-VI-2001, C. Hawkins, and Camp Creek, 4-VII-2003, and Lower Mary's River, 16-VI-1993, and Mill Creek, 30-VII-2004, and Upper T Creek, 16-VI-1993 (BLAB); larvae, HUMBOLT COUNTY, Summer Camp Creek, 14-V-2003 (BLAB); larvae, NYE COUNTY, Summit Creek, 10-VII-2002 (BLAB); larvae, WHITE PINE COUNTY, Lehman Creek, at Upper Lehman Creek Campground, 2400m, and Baker Creek, at Baker Creek Campground, 2350m, 2-VII-2001, and Lehman Creek, at Wheeler Peak Campground, 3000m, and at park boundary, 1900m, 3-VI-2001, and Baker Creek, at Baker Creek Trailhead, 2450m, 4-VII-2001, and at Grey Cliffs Gate, 2160m, 14-VII-2001, and Baker Creek, above cutoff trial, 2800m, and South Baker Creek, below meadow, 2750m, 16-VII-2001, and Lehman Creek, on Wheeler Campground Trail, 2600m, C. Brammer, J. MacDonald (PERC), and North Fork Cleve Creek, 17-VI- 2001, and Ellison Creek, 29-VII-1998, and Hendrys Creek, 16-VI-2001, and Illipah Creek, 19-X-1999, and Mill Creek, 6-V-1998, and Piermont Creek, 7-VII-2002, and Pine Creek, 28-VIII-1998, and Ridge Creek, 28-VIII-1998, and Shingle Creek, 15-IX-2001, and Smith Creek, 14-IX-1998, and Snake Creek, 12-V-2003, and Strawberry Creek, 7-X-1998, and Timber Creek, 21-VI-2002, and Williams Creek, 21-VII-1998 (BLAB).

***Drunella flavilinea* (McDunnough). **New data**: larvae, LANDER COUNTY, Big Creek, at Big Creek Campground, 2-VIII-1968, R. Baumann (PERC).

Drunella grandis* (Eaton). **Previous data: Allen and Edmunds (1962): ELKO COUNTY (Columbia Creek, Secret Creek, Franklin River, stream near Arthur), LANDER COUNTY (Youngs Ranch Stream). **New data**: larvae, ELKO COUNTY, Copper Creek, 19-VI-2004, and Deep Creek, 18-VI-2004, and West Fork Jarbridge Creek, 30-VI-2003, and Lower Mary's River, 16-VI-1993, and Upper Mary's River, 24-VI-2003, and Nelson Creek, 28-IX-2003, and Upper T Creek, 16-VI-1993 (BLAB); larvae, HUMBOLT COUNTY, Abel Creek, 22-VI-2001, and Alder Creek, 28-V-2004, and Happy Creek, 28-V-2003, and North Fork Jackson Creek, 25-V-2004, and Sonoma Creek, 20-V-2004, and Summer Camp Creek, 14-V-2003 (BLAB);

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larvae, NYE COUNTY, Currant Creek, 5-X-1999, and Illinois Creek, 1-VII-2002 (BLAB); larvae, WHITE PINE COUNTY, Negro Creek, 13-VII-2002, C. Hawkins, and Ellison Creek, 20-V-1999, and Hendrys Creek, 16-IX-1998, and Strawberry Creek, 11-IX-2000, and Silver Creek, 23-IX-1998, and White River, 19-X-1999 (BLAB).

***Drunella spinifera* (Needham). **New data**: larvae, LANDER COUNTY, Campbell Creek, just west of Campbell Creek Ranch, on Highway 722, 39°15.07' N, 117°40.888'W, 2947m, 24-III-2007, P. Randolph (RPR); larvae, WASHOE COUNTY, Truckee River, Reno, 18-X-1972, S. Wongsiri (UCD).

***Ephemerella aurivillii* (Bengtsson). **New data**: larvae, DOUGLAS COUNTY, East Fork Carson River, upstream of dam near fish hatchery, 38°52.286' N, 119°41.542' W, 1453m, 23-III-2007, P. Randolph (RPR).

***Ephemerella dorothea* Needham. **New data**: larvae, DOUGLAS COUNTY, West Fork Carson River, off Dresslerville Road, east of Highway 395, 38°52.01' N, 119°45.632' W, 1479m, 23-III-2007, P. Randolph (RPR); larvae, ELKO COUNTY, Upper T Creek, 41.612, -115.279, 6-VI-1993 (BLAB); larvae, LYON COUNTY, West Fork Walker River, at Wilson Canyon, Highway 208 bridge, 38°48.52' N, 119°13.312' W, 1447m, 23-III-20007, P. Randolph (RPR); larvae, MINERAL COUNTY, Walker River, at Rodeo Road, just north of Schurz, off Highway 95, 38°58.184' N, 118°49.312' W, 1281m, 23-III-2007, P. Randolph (RPR); larvae, NYE COUNTY, Current Creek, Current, 3-VI-1985, C. Murvosh (PERC); larvae, STOREY COUNTY, Truckee River, at bridge on Tray Power Plant Road, exit 32 off I-80, east of Reno, 39°33.897' N, 119°29.180' W, 1330m, 24-III-2007, P. Randolph (RPR).

Ephemerella excrucians* Walsh. **Previous data: Traver (1935) as *E. inermis* Eaton: WASHOE COUNTY (Reno); Allen (1968) as *E. rama* Allen: WASHOE COUNTY (Reno); Allen and Edmunds (1965) as *E. inermis*: ELKO COUNTY (Columbia Creek, Secret Creek); Baumann and Kondratieff (2000) as *E. inermis*: Humbolt River (no other data). **New data**: larvae, CLARK COUNTY, Virgin River, near Mesquite, 2-V-1981, P. McCafferty, A. Provonsha, D. Bloodgood (PERC); larvae, ELKO COUNTY, Cottonwood Creek, 26-VI-2001, C. Hawkins, and Frazier Creek, 15-X-2003, and West Fork Jarbridge Creek, 30-VI-2003, and Lower Mary's River, 16-VI-1993, and Upper Mary's River, 24-VI-2003, and Willow Creek, 27-IX-2003 (BLAB); larvae, HUMBOLT COUNTY, Long Creek, 23-VI-2001, and Rock Creek, 22-VI-2001, C. Hawkins, and Denio Creek, 28-V-2003 (BLAB); larvae, NYE COUNTY, Clear Creek, 1-VII-2002, and 22-VI-2002, C. Hawkins, and Little Cherry Creek, 23-IX-1999 (BLAB); adults and larvae, WHITE PINE COUNTY, Baker Creek, at Baker Creek Campground, 2350m, 2-VII-2001, C. Brammer, J. MacDonald (PERC); larvae, WHITE PINE COUNTY, Ellison Creek, 15-V-1997, and Hendrys Creek, 16-VI-2001, and Steptoe Creek, 8-VII-2002, and Strawberry Creek, 6-V-1998, and White River, 19-VI-2001, C. Hawkins, and Ellison Creek, 20-V-1999, and Snake Creek, 12-V-2003 (BLAB), and Lehman Creek, at park boundary, 1900m, 15-VII-2001, C. Brammer, J. MacDonald (PERC).

Euphemerella tibialis* McDunnough. **Previous data: Allen and Edmunds (1963): ELKO COUNTY (Franklin River). **New data**: larvae, ELKO COUNTY, Cottonwood Creek, 26-VI-2001, C. Hawkins, and Jack Creek, 30-VI-2003 (BLAB).

Timpanoga hecuba* (Eaton). **Previous data: Allen and Edmunds (1959): DOUGLAS COUNTY (West Fork Carson River). **New data**: ELKO COUNTY, Lower Mary's River, and Upper T Creek, 16-VI-1993 (BLAB).

Ephemeridae

Ephemera simulans Walker. **Previous data**: Baumann and Kondratieff (2000): ELKO COUNTY (Humbolt River), EUREKA COUNTY (Humbolt River).

Hexagenia limbata (Serville). **Previous data**: Baumann and Kondratieff (2000): ELKO COUNTY (Humbolt River), EUREKA COUNTY (Humbolt River), LANDER COUNTY (Humbolt River).

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Heptageniidae

****Cinygma dimicki** McDunnough. **New data**: larvae, CARSON CITY, Clear Creek, on Old Clear Creek Road, 4 miles east of U. S. Highway 50, 11-IX-2006, and Kings Creek, at Kings Canyon Road, 39°9.436' N, 119°48.229' W, 1554m, and unnamed stream along Highway 28, 2 miles north of Spooner Lake State Park, 1.5 miles south of Washoe County line, Lake Tahoe Basin, 39°8.401' N, 119°55.455' W, 2153m, P. Randolph (RPR).

****Cinygma integrum** Eaton. **New data**: larvae, WASHOE COUNTY, Truckee River, at Oxbow Park, Reno, 28-VII-1999, P. Randolph (PERC).

***Cinygmula mimus** (Eaton). **Previous data**: Slater and Kondratieff (2004): WHITE PINE COUNTY (Upper Lehman Creek). **New data**: adults, larvae, WASHOE COUNTY, Lake Tahoe, 23-VI-1927 (CUAC); adults, WHITE PINE COUNTY, Baker Creek, and Baker Creek Campground, 2350m, 2-VII-2001, C. Brammer, J. MacDonald (PERC).

****Cinygmula par** (Eaton). **New data**: larvae, WHITE PINE COUNTY, Great Basin National Park, South Fork Baker Creek, and Baker Creek at cutoff Baker Lake Trail, 16-VII-2001, and Baker Creek, at Trailhead, 4-VII-2001, and Lehman Creek, at Wheeler Trail, 18-VII-2001, and Lehman Creek, at Upper Camp, 15-VII-2001, C. Brammer, J. MacDonald (PERC).

***Ecdyonurus criddlei** (McDunnough). **Previous data**: Bednarik and Edmunds (1980): ELKO COUNTY (Franklin River), WASHOE COUNTY (Truckee River). **New data**: larvae, ELKO COUNTY, Allegheny Creek, 12-VI-2004 (BLAB).

Ecdyonurus simplicioides (McDunnough). **Previous data**: Bednarik and Edmunds (1980): ELKO COUNTY (Humbolt River).

****Epeorus grandis** (McDunnough). **New data**: larvae, CARSON CITY, unnamed stream along Highway 28, 2 miles north of Spooner Lake State Park, 1.5 mi south of Washoe County line, Lake Tahoe Basin, 39°8.401' N, 119°55.455' W, 2153m, 25-III-2007, and waterfall at end of Kings Canyon Road, 6-IV-2007, P. Randolph (RPR).

***Epeorus longimanus** (Eaton). **Previous data**: Allen and Murvosh (1991): WASHOE COUNTY (no other data). **New data**: larvae, ELKO COUNTY, creek above Angel Lake, near Wells, 29-VII-1968, R. Baumann (PERC); adults and larvae, WHITE PINE COUNTY, Baker Creek, at Baker Creek Campground, 2350m, 2,4-VII-2001, C. Brammer, J. MacDonald (PERC); larvae, WHITE PINE COUNTY, Lehman Creek, at Upper Lehman Creek Campground, 2400m, 2-VI-2001, and Baker Creek, at park boundary, 4-VI-2001, and Baker Creek, at Baker Creek Trailhead, 2450m, 4-VII-2001, and at no camping area, 15-VII-2001, C Brammer, J. MacDonald (PERC).

****Epeorus margarita** Edmunds and Allen. **New data**: larvae, HUMBOLT COUNTY, Cottonwood Creek, near Paradise Valley, 30-VII-1968, R. Baumann (PERC).

****Heptagenia adaequata** McDunnough. **New data**: larvae, CLARK COUNTY, Virgin River, near Mesquite, 2-V-1981, P. McCafferty, A. Provonsha, D. Bloodgood (PERC).

***Heptagenia elegantula** (Eaton). **Previous data**: Bednarik and Edmunds (1980): CLARK COUNTY (Virgin River); Allen and Murvosh (1991): WASHOE COUNTY (Reno); Baumann and Kondratieff (2000): Humbolt River (no other data). **New data**: larvae, LYON COUNTY, West Fork Walker River, at Wilson Canyon, Highway 208 bridge, 38°48.52' N, 119°13.312' W, 1447m, 23-III-2007, P. Randolph (RPR); larvae, PERSHING COUNTY, Humbolt River, Lovelock, 18-VI-1966 (PERC).

Heptagenia solitaria McDunnough. **Previous data**: Bednarik and Edmunds (1980): ELKO COUNTY (North Fork Humbolt River).

****Ironodes nitidus** (Eaton). **New data**: larvae, CARSON CITY, Kings Creek, at Kings Canyon Road, 39°9.4436' N, 119°38.229' W, 1554m, 25-III-2007, and waterfall at end of Kings Canyon Road, 6-IV-2007, P. Randolph (RPR); larvae, LANDER COUNTY, Campbell Creek, just west of Campbell Creek Ranch, on

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Highway 722, 39°15.07' N, 117°40.888' W, 2047m, 24-III-2007, P Randolph (RPR).

Maccaffertium terminatum (Walsh). **Previous data**: Bednarik and McCafferty (1979): ELKO COUNTY (Humbolt River); Baumann and Kondratieff (2000): Humbolt River (no other data).

Rhithrogena hageni* Eaton. **Previous data: Allen and Murvosh (1991): WASHOE COUNTY (Reno). **New data**: larvae, ELKO COUNTY, Franklin River, at Nevada Highway 11, 19-IX-1957, G. Edmunds, R. Allen (PERC).

Rhithrogena morrisoni (Banks). **Previous data**: Banks (1924): WASHOE COUNTY (Reno).

Rhithrogena plana Allen and Chao. **Previous data**: Jacobus and McCafferty (2002): WASHOE COUNTY (Galena Creek).

Rhithrogena undulata* (Banks). Previous data**: Baumann and Kondratieff (2000): Humbolt River (no other data). **New data**: larvae, ELKO COUNTY, Secret Creek, 12 kilometers northwest of Arthur, 19-IX-1957, G. Edmunds, R. Allen (PERC).

Isonychiidae
Isonychia intermedia (Eaton). **Previous data**: Allen and Murvosh (1991): CLARK COUNTY (Moapa River).

Leptohyphidae
***Leptohyphes apache* Allen. **New data**: larvae, CLARK COUNTY, Virgin River, near Mesquite, 2-V-1981, P. McCafferty, A. Provonsha, D. Bloodgood (PERC).

***Tricorythodes explicatus* (Eaton). **New data**: larvae, CLARK COUNTY, Virgin River, near Mesquite, 2-V-1981, P. McCafferty, A. Provonsha, D. Bloodgood (PERC); larvae, ELKO COUNTY, Humbolt River, at Elko, 29-VIII-1965, S. and J. Jensen (PERC).

Tricorythodes minutus* Traver. **Previous data: Frantz and Cordone (1966) as *T. fallax* Traver: DOUGLAS COUNTY (Lake Tahoe), WASHOE COUNTY (Lake Tahoe); Allen and Murvosh (1987): ELKO COUNTY (Starr Creek), CHURCHILL COUNTY (Fallon canal), WASHOE COUNTY (Truckee River); Baumann and Kondratieff (2000): ELKO COUNTY (Humbolt River), EUREKA COUNTY (Humbolt River), HUMBOLT COUNTY (Humbolt River), LANDER COUNTY (Humbolt River). **New data**: larvae, CARSON CITY, Carson River, at Riverview Park east of 5th Street, 11-IX-2006, P. Randolph (RPR); larvae, ELKO COUNTY, Starr Creek, 2 miles south of U. S. Highway 40, 23-IX-1957, and Willow Creek, at Willow Creek Reservoir, 20-IX-1957, G. Edmunds, R. Allen (PERC), and Upper Hanks Creek, 25-VI-2003, and Mary's River, Powerline, 23-VI-2003 (BLAB); larvae, HUMBOLT COUNTY, North Fork Little Humbolt River, 21-VI-2005 (BLAB); larvae, WHITE PINE COUNTY, Smith Creek, 14-IX-1998 (BLAB).

Leptohplebiidae
Choroterpes albiannulata* McDunnough. **Previous data: McCafferty (1992): ELKO COUNTY (Humbolt River); Baumann and Kondratieff (2000): Humbolt River (no other data). **New data**: larvae, CARSON CITY, Carson River, at Riverview Park, east end of 5th Street, 11-IX-2006, P. Randolph (RPR).

Paraleptophlebia bicornuta (McDunnough). **Previous data**: Frantz and Cordone (1966) as *Paraleptophlebia* spp.: DOUGLAS COUNTY (Lake Tahoe), WASHOE COUNTY (Lake Tahoe).

Paraleptophlebia debilis* (Walker). **Previous data: Baumann and Kondratieff (2000): EUREKA COUNTY (Humbolt River), HUMBOLT COUNTY (Humbolt River). **New data**: larvae, CARSON CITY, Clear Creek, on Old Clear Creek Road, 4 miles east of U. S. Highway 50, 11-IX-2006, P. Randolph (RPR); adults, ELKO COUNTY, Secret Creek, Highway 11, 29-VII-1968, R. Baumann (PERC); adults, WASHOE COUNTY, Lake Tahoe, 12000m, 27-VIII-1946, H. Chandler (CAS).

***Paraleptophlebia heteronea* (McDunnough). **New data**: adults and larvae, WHITE PINE

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COUNTY, Baker Creek, at Baker Creek Campground, 2350m, 2,14-VII-2001, C. Brammer, J. MacDonald (PERC); larvae, WHITE PINE COUNTY, Baker Creek, at Baker Creek Trailhead, 2450m, 4,14-VII-2001, and Lehman Creek, at Upper Lehman Creek Campground, and at no camping area, 15-VII-2001, and Lehman Creek, at park boundary, 1900m, 15-VII-2001, and Lehman Creek, on Wheeler Campground Trail, 2600m, 18-VII-2001, C. Brammer, J. MacDonald (PERC).

***Paraleptophlebia temporalis* (McDunnough). **New data**: larvae, ELKO COUNTY, Secret Creek, 12 kilometers northwest of Arthur, 19-IX-1957, G. Edmunds, R. Allen (PERC).

***Paraleptophlebia vaciva* (Eaton). **New data**: larvae, CARSON CITY, unnamed stream along Highway 28, 2 miles north of Spooner Lake State Park, 1.5 mi south of Washoe County line, Lake Tahoe Basin, 39°8.401' N, 119°55.455'W, 2153m, and Kings Creek, at Kings Canyon Road, 39°9.436' N, 119°48.229' W, 1554m, 25-III-2007, and Clear Creek, on Old Clear Creek Road, 4 miles east of U. S. Highway 50, 11-IX-2006, P. Randolph (RPR); larvae, DOUGLAS COUNTY, West Fork Carson River, off Dresslerville Road, east of U. S. Highway 395, 38°52.01' N 119°45.632' W, 1479m, P. Randolph (RPR); larvae, LANDER COUNTY, Campbell Creek, just west of Campbell Creek Ranch, on Highway 722, 39°15.07' N, 117°40.888' W, 2047m, and San Juan Creek, off Forest Service Road 06, Reese River Valley, 24-IIII-2007, P. Randolph (RPR).

Traverella albertana* McDunnough. **Previous data: Baumann and Kondratieff (2000): Humbolt River (no other data). **New data**: larvae, CLARK COUNTY, Virgin River, near Mesquite, 2-V-1981, P. McCafferty, A. Provonsha, D. Bloodgood (PERC).

Polymitarcyidae

Ephoron album* (Say). **Previous data: McCafferty (1975): ELKO COUNTY (Humbolt River); Baumann and Kondratieff (2000): ELKO COUNTY (Humbolt River), EUREKA COUNTY (Humbolt River), LANDER COUNTY (Humbolt River). **New data**: larvae, ELKO COUNTY, Humbolt River, 29-VIII-1965, S. & J. Jensen (PERC).

Siphlonuridae

Siphlonurus occidentalis* (Eaton). **Previous data: Eaton (1885): PERSHING COUNTY (between Elles and Humbolt); Baumann and Kondratieff (2000): EUREKA COUNTY (Dunphy). **New data**: adults, ELKO COUNTY, Secret Creek, at Secret Pass, 15-VI-1974, B. Stark (PERC).

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